

# Virginia Grade Level Alternative Worksheet

## Grade 5 Mathematics

*Check all that apply:*

Assigned scores have been entered into the online VGLA System.

Assigned scores have been verified and submitted for final scoring in the online VGLA System.

Student's Name: \_\_\_\_\_ Student's Number: \_\_\_\_\_

An "X" under No Evidence represents  
a Total of 0.

Reporting Category	SOL #	Specific Virginia Standard of Learning	Demonstrated (0 to 4)	Inferred (0 to 4)	No Evidence (0)	Total (0 to 4)
RC 1	4.1	The student will a) identify (orally and in writing) the place value for each digit in a whole number expressed through millions; b) compare two whole numbers expressed through millions, using symbols ( $>$ , $<$ , or $=$ ); and c) round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.				
RC 1	4.2	The student will a) identify, model, and compare rational numbers (fractions and mixed numbers), using concrete objects and pictures; b) represent equivalent fractions; and c) relate fractions to decimals, using concrete objects.				
RC 1	4.3	The student will compare the numerical value of fractions (with like and unlike denominators) having denominators of 12 or less, using concrete materials.				
RC 1	4.4	The student will a) read, write, represent, and identify decimals expressed through thousandths; b) round to the nearest whole number, tenth, and hundredth; and c) compare the value of two decimals, using symbols ( $<$ , $>$ , or $=$ ), concrete materials, drawings, and calculators..				
RC 1	5.1	The student will a) read, write, and identify the place values of decimals through thousandths; b) round decimal numbers to the nearest tenth or hundredth; and c) compare the values of two decimals through thousandths, using the symbols $>$ , $<$ , or $=$ .				
RC 1	5.2	The student will a) recognize and name commonly used fractions (halves, fourths, fifths, eighths, and tenths) in their equivalent decimal form and vice versa; and b) order a given set of fractions and decimals from least to greatest. Fractions will include like and unlike denominators limited to 12 or less, and mixed numbers.				
RC 2	4.5	The student will estimate whole-number sums and differences and describe the method of estimation. Students will refine estimates, using terms such as closer to, between, and a little more than.				
RC 2	4.6	The student will add and subtract whole numbers written in vertical and horizontal form, choosing appropriately between paper and pencil methods and calculators.				
RC 2	4.7	The student will find the product of two whole numbers when one factor has two digits or fewer and the other factor has three digits or fewer, using estimation and paper and pencil. For larger products (a two-digit numeral times a three-digit numeral), estimation and calculators will be used.				

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RC 2	4.8	The student will estimate and find the quotient of two whole numbers, given a one-digit divisor.				
RC 2	4.9	The student will a) add and subtract with fractions having like and unlike denominators of 12 or less, using concrete materials, pictorial representations, and paper and pencil; b) add and subtract with decimals through thousandths, using concrete materials, pictorial representations, and paper and pencil; and c) solve problems involving addition and subtraction with fractions having like and unlike denominators of 12 or less and with decimals expressed through thousandths, using various computational methods, including calculators, paper and pencil, mental computation, and estimation.				
RC 2	5.3	The student will create and solve problems involving addition, subtraction, multiplication, and division of whole numbers, using paper and pencil, estimation, mental computation, and calculators.				
RC 2	5.4	The student will find the sum, difference, and product of two numbers expressed as decimals through thousandths, using an appropriate method of calculation, including paper and pencil, estimation, mental computation, and calculators.				
RC 2	5.5	The student, given a dividend of four digits or fewer and a divisor of two digits or fewer, will find the quotient and remainder.				
RC 2	5.6	The student, given a dividend expressed as a decimal through thousandths and a single-digit divisor, will find the quotient.				
RC 2	5.7	The student will add and subtract with fractions and mixed numbers, with and without regrouping, and express answers in simplest form. Problems will include like and unlike denominators limited to 12 or less.				
RC 3	4.10	The student will a) estimate and measure weight/mass, using actual measuring devices, and describe the results in U.S. Customary/metric units as appropriate, including ounces, pounds, grams, and kilograms; b) identify equivalent measurements between units within the U.S. Customary system (ounces and pounds) and between units within the metric system (grams and kilograms); and c) estimate the conversion of ounces and grams and pounds and kilograms, using approximate comparisons (1 ounce is about 28 grams, or 1 gram is about the weight of a paper clip; 1 kilogram is a little more than 2 pounds).* * The intent of this standard is for students to make ballpark comparisons and not to memorize conversion factors between U.S. Customary and metric units.				

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RC 3	4.11	<p>The student will</p> <p>a) estimate and measure length, using actual measuring devices, and describe the results in both metric and U.S. Customary units, including part of an inch (1/2, 1/4, and 1/8), inches, feet, yards, millimeters, centimeters, and meters;</p> <p>b) identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards) and between units within the metric system (millimeters and centimeters; centimeters and meters; and millimeters and meters); and</p> <p>c) estimate the conversion of inches and centimeters, yards and meters, and miles and kilometers, using approximate comparisons (1 inch is about 2.5 centimeters, 1 meter is a little longer than 1 yard, 1 mile is slightly farther than 1.5 kilometers, or 1 kilometer is slightly farther than half a mile).*</p> <p>* The intent of this standard is for students to make ballpark comparisons and not to memorize conversion factors between U.S. Customary and metric units.</p>				
RC 3	4.12	<p>The student will</p> <p>a) estimate and measure liquid volume, using actual measuring devices and using metric and U.S. Customary units, including cups, pints, quarts, gallons, milliliters, and liters;</p> <p>b) identify equivalent measurements between units within the U.S. Customary system (cups, pints, quarts, and gallons) and between units within the metric system (milliliters and liters); and</p> <p>c) estimate the conversion of quarts and liters, using approximate comparisons (1 quart is a little less than 1 liter, 1 liter is a little more than 1 quart).*</p> <p>* The intent of this standard is for students to make ballpark comparisons and not to memorize conversion factors between U.S. Customary and metric units.</p>				
	4.13	<p>The student will</p> <p>a) identify and describe situations representing the use of perimeter and area; and</p> <p>b) use measuring devices to find perimeter in both standard and nonstandard units of measure.</p>				
RC 3	4.14	The student will investigate and describe the relationships between and among points, lines, line segments, and rays.				
RC 3	4.15	<p>The student will</p> <p>a) identify and draw representations of points, lines, line segments, rays, and angles, using a straightedge or ruler; and</p> <p>b) describe the path of shortest distance between two points on a flat surface.</p>				
RC 3	4.16	The student will identify and draw representations of lines that illustrate intersection, parallelism, and perpendicularity.				

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RC 3	4.17	The student will a) analyze and compare the properties of two-dimensional (plane) geometric figures (circle, square, rectangle, triangle, parallelogram, and rhombus) and three-dimensional (solid) geometric figures (sphere, cube, and rectangular solid [prism]); b) identify congruent and noncongruent shapes; and c) investigate congruence of plane figures after geometric transformations such as reflection (flip), translation (slide) and rotation (turn), using mirrors, paper folding, and tracing.				
RC 3	4.18	The student will identify the ordered pair for a point and locate the point for an ordered pair in the first quadrant of a coordinate plane.				
RC 3	5.8	The student will describe and determine the perimeter of a polygon and the area of a square, rectangle, and right triangle, given the appropriate measures.				
RC 3	5.9	The student will identify and describe the diameter, radius, chord, and circumference of a circle.				
RC 3	5.10	The student will differentiate between perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.				
RC 3	5.11	The student will choose an appropriate measuring device and unit of measure to solve problems involving measurement of a) length—part of an inch (1/2, 1/4, and 1/8), inches, feet, yards, miles, millimeters, centimeters, meters, and kilometers; b) weight/mass—ounces, pounds, tons, grams, and kilograms; c) liquid volume—cups, pints, quarts, gallons, milliliters, and liters; d) area—square units; and e) temperature—Celsius and Fahrenheit units. Problems also will include estimating the conversion of Celsius and Fahrenheit units relative to familiar situations (water freezes at 0°C and 32°F, water boils at 100°C and 212°F, normal body temperature is about 37°C and 98.6°F).				
RC 3	5.12	The student will determine an amount of elapsed time in hours and minutes within a 24-hour period.				
RC 3	5.13	The student will measure and draw right, acute, and obtuse angles and triangles, using appropriate tools.				
RC 3	5.14	The student will classify angles and triangles as right, acute, or obtuse.				
RC 3	5.15	The student, using two-dimensional (plane) figures (square, rectangle, triangle, parallelogram, rhombus, kite, and trapezoid) will a) recognize, identify, describe, and analyze their properties in order to develop definitions of these figures; b) identify and explore congruent, noncongruent, and similar figures; c) investigate and describe the results of combining and subdividing shapes; d) identify and describe a line of symmetry; and e) recognize the images of figures resulting from geometric transformations such as translation (slide), reflection (flip), or rotation (turn).				
RC 3	5.16	The student will identify, compare, and analyze properties of three-dimensional (solid) geometric shapes (cylinder, cone, cube, square pyramid, and rectangular prism).				

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RC 4	4.19	The student will a) predict the likelihood of outcomes of a simple event, using the terms certain, likely, unlikely, impossible; and b) determine the probability of a given simple event, using concrete materials.				
RC 4	4.20	The student will collect, organize, and display data in line and bar graphs with scale increments of one or greater than one and use the display to interpret the results, draw conclusions, and make predictions.				
RC 4	5.17	The student will a) solve problems involving the probability of a single event by using tree diagrams or by constructing a sample space representing all possible results; b) predict the probability of outcomes of simple experiments, representing it with fractions or decimals from 0 to 1, and test the prediction; and c) create a problem statement involving probability and based on information from given problem situation. Students will not be required to solve the created problem statement.				
RC 4	5.18	The student will, given a problem situation, collect, organize, and display a set of numerical data in a variety of forms, using bar graphs, stem-and-leaf plots, and line graphs, to draw conclusions and make predictions.				
RC 4	5.19	The student will find the mean, median, mode, and a range of a set of data.				
RC 5	4.21	The student will recognize, create, and extend numerical and geometric patterns, using concrete materials, number lines, symbols, tables, and words.				
RC 5	4.22	The student will recognize and demonstrate the meaning of equality, using symbols representing numbers, operations, and relations [e.g., $3 + 5 = 5 + 3$ and $15 + (35 + 16) = (15 + 35) + 16$ ].				
RC 5	5.20	The student will analyze the structure of numerical and geometric patterns (how they change or grow) and express the relationship, using words, tables, graphs, or a mathematical sentence. Concrete materials and calculators will be used.				
RC 5	5.21	The student will a) investigate and describe the concept of variable; b) use a variable expression to represent a given verbal quantitative expression, involving one operation; and c) write an open sentence to represent a given mathematical relationship, using a variable.				
RC 5	5.22	The student will create a problem situation based on a given open sentence using a single variable.				

### Reporting Category Key

**RC 1** Number and Number Sense

**RC 2** Computation and Estimation

**RC 3** Measurement and Geometry

**RC 4** Probability and Statistics

**RC 5** Patterns, Functions, and Algebra